



# Spragins, the Syncrude persuader

Frank Spragins, a Mississippi-born electrical engineer, has been synonymous with the Syncrude project throughout the years.

Sitting near the back of a reception room in the Chateau Lacombe one September evening five years ago, he watched calmly as Premier Peter Lougheed announced the oil sands complex would be going ahead.

The expression on his face, when not smiling for a passing camera man, showed the fatigue of many years of struggle. He had been working to develop the billion-dollar oil sands complex for almost two decades.

His voice, which retains the southern twang which comes with being born in Mississippi and educated in Texas, was calm as he stood to field questions from his staff after the historic announcement.

During the previous eight years, he had been called upon many times to use all his persuasive powers.

He had the tedious task of convincing the Alberta government that a major oil sands plant would not take

away markets from Alberta's conventional oil wells and he fought hard to persuade the federal government to allow Syncrude desirable income tax concessions for its mining venture.

Perhaps his toughest battle came with Premier Lougheed over the development terms for the Syncrude complex.

"Both sides had their objectives and fought hard to obtain them," Mr. Spragins remarked at the time. More than once these negotiations, which had to turn to a computer at times for quick answers, ruptured to the point that the entire project was threatened.

In the end, the agreement was satisfactory to both sides, and the project received the green light in September, 1973.

Mr. Spragins stayed to guide the Syncrude organization through the difficult years of construction and experienced the frustration of seeing his life's work almost become worthless when a partner pulled out of Syncrude after cost escalations and the project almost foun-

## A bright future

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"Best of all, that plant will remain to produce oil for years into the future, guaranteeing energy and jobs for generations to come. It would be ironic if the national economy should flounder for lack of an expanding Canadian energy base when the solution to our problem is so near at hand.

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F. K. Spragins,  
President,  
Syncrude Canada Ltd.  
1964-1975.

dered. The project, however, was saved by the timely participation of three govern-

ments early in 1975 and later

Mr. Spragins was promoted to chairman of the consor-

tium and H.B. Scott took over as Syncrude's president.

Mr. Spragins, approaching his 65th birthday, retired from Syncrude in December, 1977. He retains his home in Edmonton where he is active as an oil sands consultant and a member of the Alberta Oil Sands Technology and Research Authority (AOSTA).

Like many oilmen, Frank Spragins came to the Alberta oil industry from south of the border.

But he arrived long before most of the others had even heard of Alberta's potential, and he stayed to become not only a Canadian citizen, but a very involved and very dedicated Albertan.

Frank Spragins had been saddled with the job of launching the Syncrude project since he became president of the new consortium in January, 1965.

Even at that time, he had devoted 11 years of his life to oil sands research with Imperial Oil Ltd. in Alberta.

Mr. Spragins was born 59 years ago in Natchez, Miss., and raised in Texas. He graduated from Rice University, Houston, with a degree in electrical engineering in 1938. After graduation, he joined the Carter Oil Company, a subsidiary of Standard Oil of New Jersey. He was with Carter Oil until the United States entered the Second World War.

His bid to enter the services was altered when the War Office decided he would be of more use to his country

looking for oil than fighting. He arrived in Alberta in 1942 and spent the next three summers looking for oil in southern Alberta with Standard of New Jersey's Canadian affiliate, Imperial Oil. During this period, he was a member of the geological team involved in selecting what was to be the Leduc discovery field.

After going through the lean years of oil exploration during the war and the prosperous times after Leduc, Mr. Spragins was introduced to the Athabasca oil sands.

By 1959 he was appointed manager of Imperial Oil's Athabasca Tar Sands department and assigned to work with Cities Service and Richfield in researching oil sands extraction methods.

After an unsuccessful attempt to obtain an oil sands development approval from the old Alberta Oil and Gas Conservation Board, the companies reduced their interest in the oil sands for a couple of years and then in 1965 established a new vehicle, Syncrude Canada Ltd., to develop an oil sands mining property on a lease held by Cities Service north of Fort McMurray.



Frank Spragins

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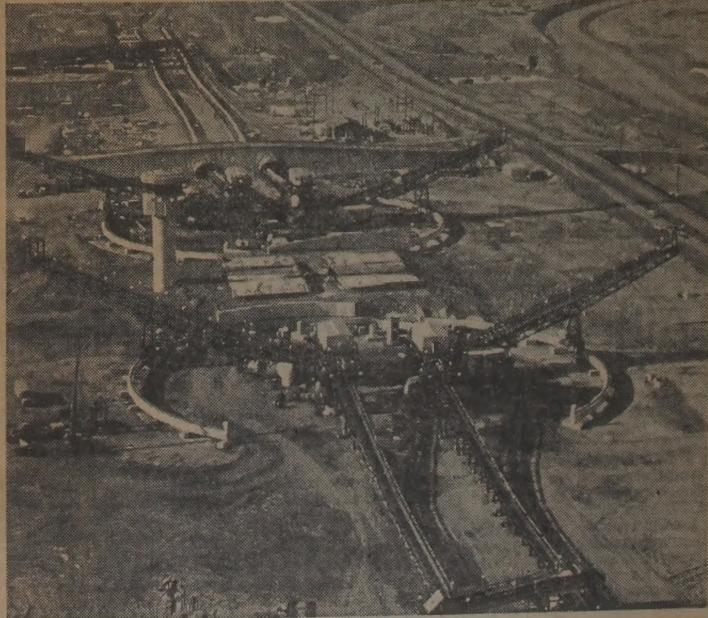
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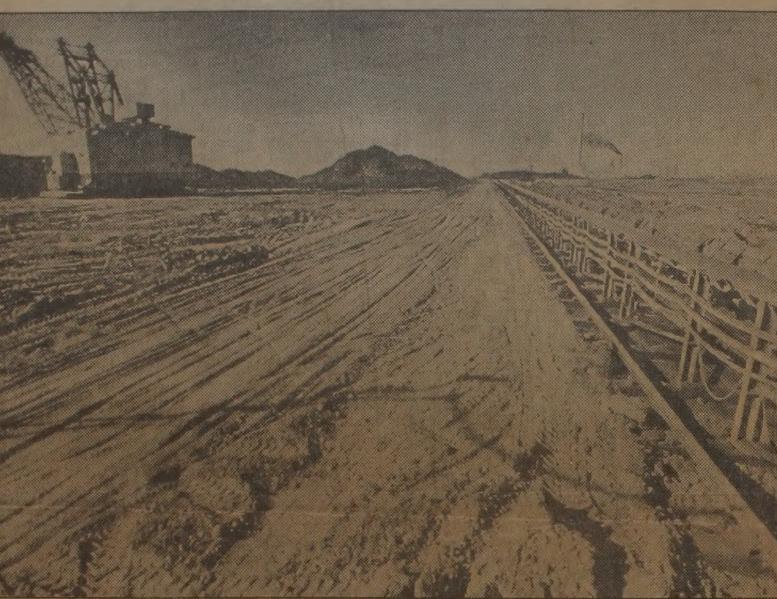


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The Young Canadians from Calgary formed part of the spectacular entertainment at the official opening ceremonies of the Syncrude complex on Friday.

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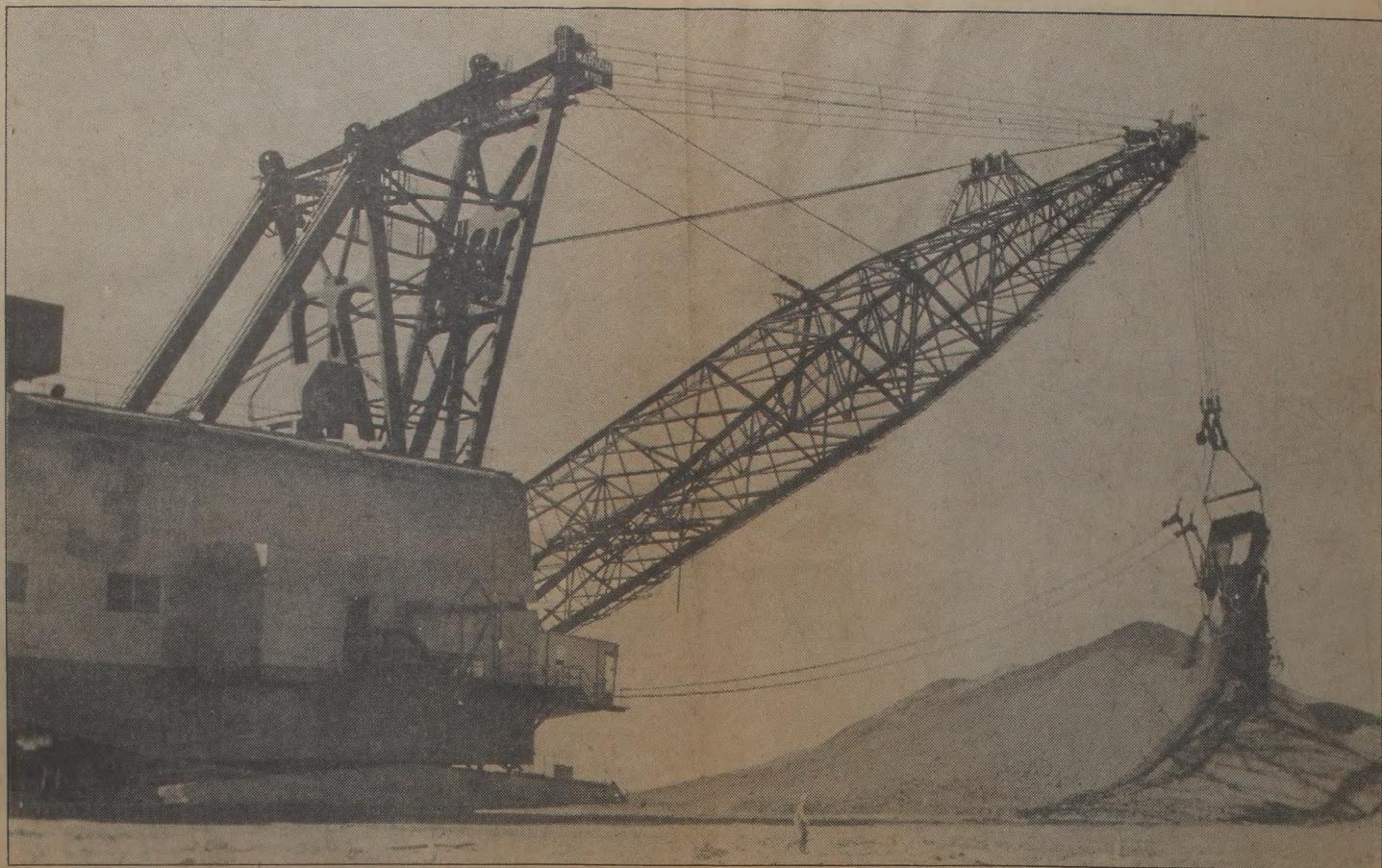
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Syncrude's mammoth dragline (there are four of them) weighs 6,120 tonnes (6,750 tons), with a boom 110 metres (360 feet) and is equipped with a bucket capable of holding 61 cubic metres (80 cubic yards) of material.

## First oil flows

The first barrels of synthetic crude oil to be produced at the \$2.2-billion Syncrude oil-sands plant near Fort McMurray in northeastern Alberta arrived in Edmonton at the end of August.

Murray Blakely, a Syncrude Canada Ltd. spokesman, said the plant started initial production by the end of the third week in August and the oil was piped to Ed-

monton about a week after that.

Syncrude had delayed its start-up several times due to problems in the utilities and bitumen-treatment facilities but the problems were resolved, he said.

The Syncrude consortium, owned jointly by three private companies and the federal, Alberta and Ontario governments, has already stockpiled 1.1 million barrels

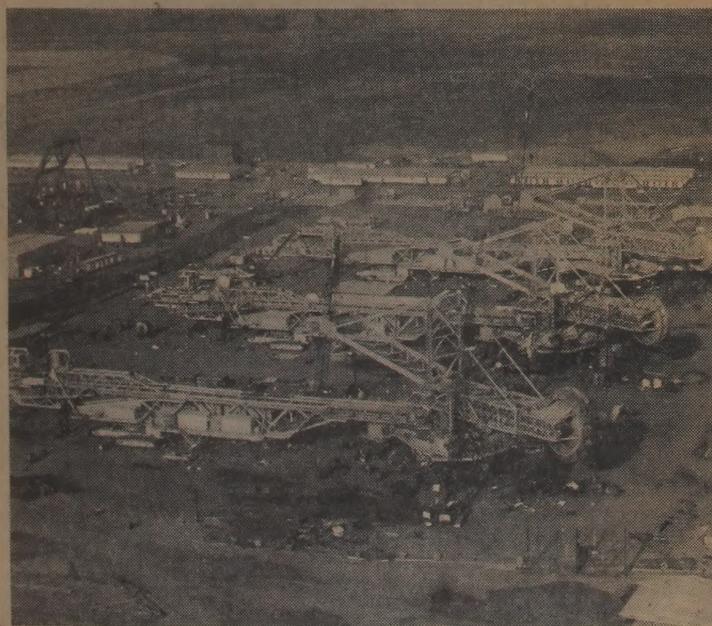
of bitumen ready to enter the upgrading plant to be cracked into synthetic oil. Syncrude's designed capacity of 129,000 barrels a day will be reached by 1982. Blakely said the plant is scheduled to produce 100,000 barrels a day by the end of this year.

### Plans Expansion

At about the same time of the Syncrude start-up, Great

Canadian Oil Sands Ltd. (GCOS) is to decide whether it will undertake an expansion project to increase its production capacity by one-third to 60,000 barrels a day. GCOS has already spent more than \$1 million studying the proposed expansion and has become increasingly concerned about estimates rising to \$240 million from \$146 million.

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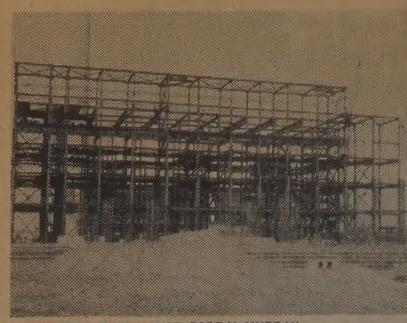
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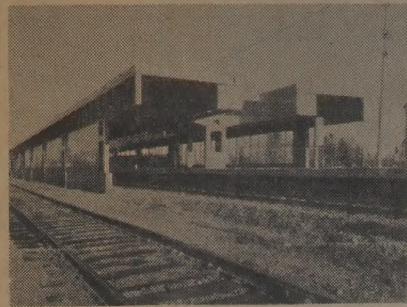
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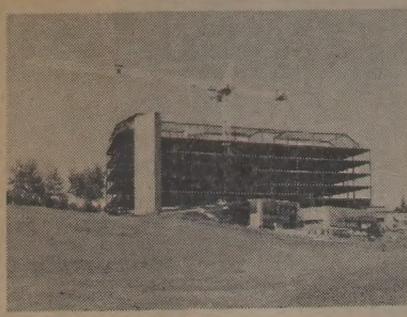


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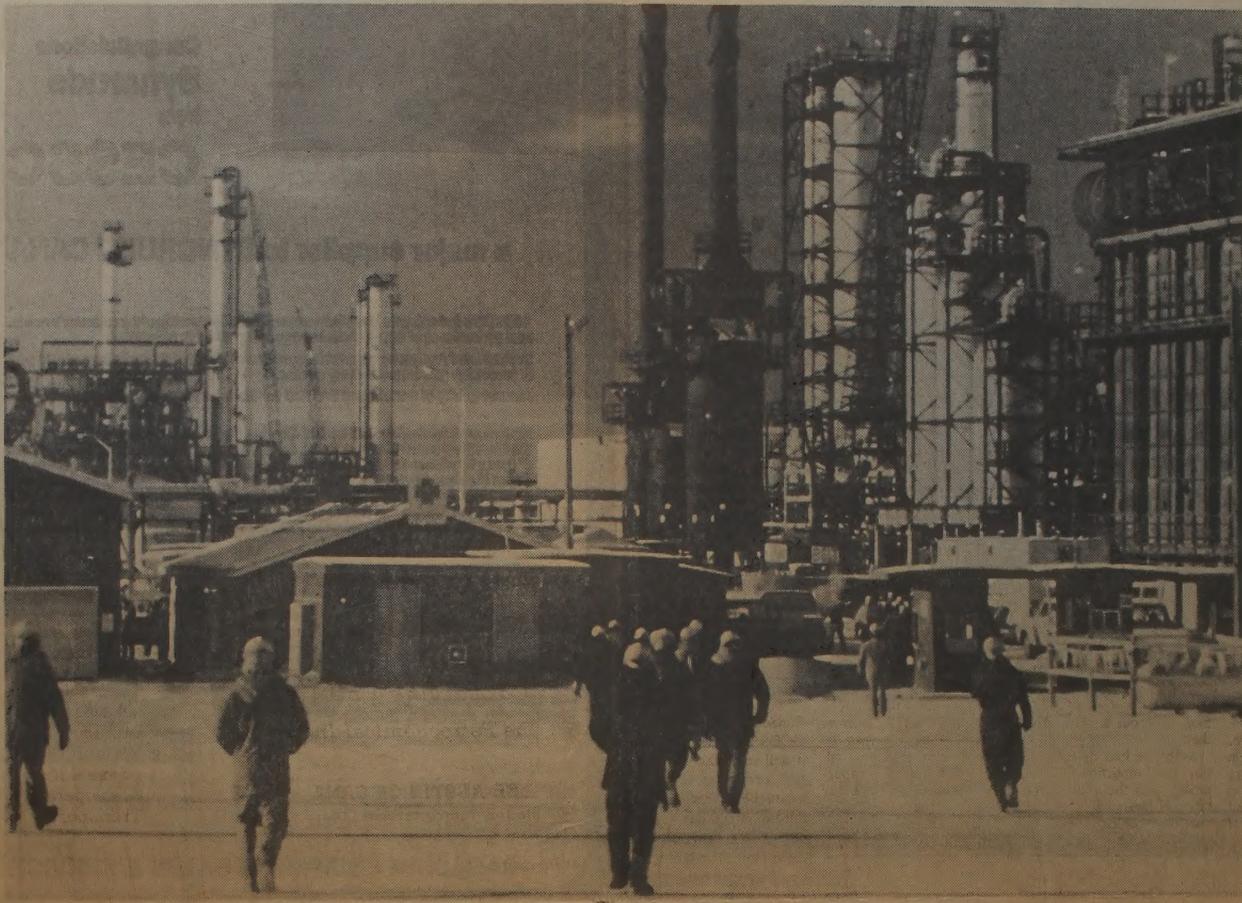
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electricians, welders and insulators...  
the Native Peoples and the Unions.

Thanks to the crews who assembled those giant  
draglines and the bucketwheels,  
and to those who designed all of that complex  
materials handling operation. It will move  
250 thousand tons of oil sand a day.

Thanks to the team who built that 600 foot stack  
and to the guy that climbed it to put the flag on top.

Thanks to the riggers who set the reactor towers,  
to the crews who connected those mazes of pipe,  
to those who put the power plant together  
and delivered power.

Thanks to the men and women who  
conceived and produced the Leducton Field  
Operations. Your pre-assembly worked.

Thanks to the safety teams, the fire crews,  
the doctors and nurses and first aiders.

Thanks to the editors, contributors and  
photographers on the Jobsite Newsletter;  
to the phys. ed. instructors and the coaches.  
There were 14 teams in the intra-mural league  
at Mildred Lake.

Thanks to Native Outreach  
and the Canada Employment and Immigration Commission,  
to those thousands of workers who came from near and  
far and to those they left behind.

Thanks to the various government agencies  
for their cooperation and assistance.

Thanks to MHG and AESL, to Underwood McLellan,  
Monenco, EBA Engineering, R. M. Hardy & Associates,  
Simons McBean and other engineering contractors whose  
expertise is much appreciated. Thanks to a multitude of  
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services — Loram, Poole, Cana, Evergreen, Cessco,  
Acklands, Century Sales, GWS Krupp, Hartog Steel, Tar  
Sands Machine, Grimshaw Trucking, Premay Equipment  
Hauling, R. L. Brews, Dominion Bridge, Safety Supply,  
among others. Thanks to PWA, their pilots and cabin crews.

Thanks to Fort McMurray, the town chairman and  
council, the library, the school boards, the Mounties.  
Thanks to the bus drivers on the run from the  
airport and the cabbies on those cold, late nights.

Thanks to TODAY... and CJOK.  
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Thanks also to cooperation and hard work,  
to know-how and congeniality,  
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Thanks to Syncrude Canada, a great client.

Thanks to all who contributed to a job well done.

Thank you.

Sincerely,



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# Syncrude tapped experience



Brent Scott

The president of Syncrude Canada Ltd. has more than 25 years experience with major oil industry construction projects in Canada.

Mr. Scott became president of Syncrude in 1975 and Frank Spragins, the man who guided Syncrude through its early years of formation was promoted to chairman of the board of the oil sands consortium.

H.B. (Brent) Scott, who had been executive vice-president of Syncrude since 1972, was appointed president of the oil sands consortium in June. Prior to joining Syncrude he had directed construction of the largest oil refinery built in western Canada prior to 1970 and the massive east coast Point Tupper, Nova Scotia refinery and associated deep-water terminal.

In fact, the 50-year-old engineer went through a major expansion of the now defunct B-A (British American Oil Company) refinery at Moose Jaw in the early 1950s when that was considered "a massive project".

Mr. Scott was appointed Syncrude president after the six oil company and government partners in the project decided to strengthen its senior executive. Frank Spragins, who as president guided Syncrude from its conception in the 1960s, became chairman.

Both men are still very much involved in the development of the \$2 billion plant, but more of Mr. Spragins' attention is directed to long-term policy development and meetings with the various partners while Mr.

Scott handles the day-to-day operations.

Mr. Scott, a native of Calgary, attended the University of Alberta in Edmonton from 1943-47 and graduated as a civil engineer.

"I joined British American Oil in Calgary in 1947 and I was particularly pleased with this job opportunity because it allowed me to live near home," he said.

Six months later, B-A (which later changed its name to Gulf Oil Canada Ltd.) transferred Mr. Scott to Moose Jaw, Sask., and he stayed there for the next six years.

The young engineering graduate started work as a mechanical engineer at the B-A Moose Jaw refinery and was eventually promoted to maintenance superintendent. "When I went there the re-

finery was rated at a 7,000-barrel-per-day operation, but by 1953 we had expanded it to 12,000 or 14,000 barrels daily and had a staff of 200," he said during an interview.

"I guess in its day that was a massive project for Western Canada's oil industry," he said and noted that the 125,000-barrel-per-day Syncrude plant currently has 3,400 construction workers on site at Mildred Lake. It will have a staff of more than 2,000 when the plant starts operating.

In 1954, he was transferred to Edmonton as operating superintendent of the

B-A Edmonton refinery and spent the next five years in Edmonton. One of his three children were born here and the others were born in Moose Jaw.

His next move took him to B-A's Clarkson refinery, near Toronto, and in 1961 he became assistant manager of B-A's Calgary refinery. He returned to Clarkson in 1965 and a year later was made manager of B-A's engineering and refining department.

The result of this centralization was an 80,000-barrel-per-day refinery which when it opened in Edmonton, at a cost of \$84 million, in 1971 was the largest in Western Canada. (Imperial's Strathcona refinery, east of Edmonton, will be larger.)

## Early exploration

The first white man to see the Athabasca Tar Sands was fur trader Peter Pond, who was lured to the area in 1778 by tales of the rich fur harvests that were possible there.

He was followed a decade later by fellow Norwester Alexander Mackenzie, who wrote in his journal, "At about 24 miles from the fork (of the Athabasca and Clearwater rivers) are some bituminous fountains into which a pole of 20 feet long may be inserted without the least resistance. The bitumen is in a fluid state and when mixed with gum, the resinous substance collected from the spruce fir, serves to gum the Indians' canoes. In its heated state it emits a smell like that of sea coal."

Other explorers were equally fascinated by the tar sands, including mapmaker David Thompson and Arctic explorers Franklin, Richardson and Simpson.

But it wasn't until 1875 that the first government-sponsored geological study was initiated, carried out by Professor John Macoun. Robert Bell headed another government expedition into the area seven years later, followed by a third in 1889. That year the chronicler of the Laird Expedition noted, "That this region stored with a substance of great economic value is beyond all doubt, and when the hour of development comes, it will, I believe, prove to be one of the wonders of northern Canada."

These early adventurers' explorations familiarized Canadian officials with the tar sands and their potential, and caught the imagination of entrepreneurs from around the world. They set the stage for the development that was soon to follow.

**Initial Commercial Development**

The first attempts to develop the Athabasca Tar Sands commercially were made under the illusion that the bitumen in the area must be coming from pools of oil deep beneath the surface. In an attempt to locate this

(Continued on Page C-8)

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# Syncrude story started in the early 1950s

In the mid-1950s, Royalite Oil Company Limited was conducting research work at the Bitumount plant.

In June of 1958, a 90 percent interest in this project was purchased by Cities Service Co. and the Mildred Lake pilot plant was constructed with operations and research under the direction of Cities Services Athabasca, Inc.

The following year Richfield Oil Corporation (later

called Atlantic Richfield Canada Ltd.) acquired one third of the Cities Service interest in the project. Then Imperial Oil Limited joined the group. The working interest at that time was Royalite (now Gulf Oil Canada Limited), 10 percent; and Imperial, Richfield and Cities Service each with 30 percent.

In 1962 the four-company group applied to the Alberta Oil and Gas Conservation

Board for a license to produce 100,000 barrels of synthetic crude oil per day. The application was deferred five years and the activities of the organization remained confined to research and development.

On Dec. 18, 1964, Syncrude Canada Ltd. was incorporated and, on Jan. 1, 1965, assumed operation of the project in place of Cities Service Athabasca.

Another application,

presented in 1968, was rejected when the discovery of oil reserves in Prudhoe Bay created what appeared to be a surplus of conventional oil, leaving no potential market for the tar sand product. The following year, Syncrude was authorized to build an 80,000 barrel-per-day plant, provided it would not go on stream before July 1, 1976. Syncrude later sought to expand the plant size and, in 1971, the Energy Resour-

ces Conservation Board recommended that the Alberta cabinet that a 125,000 barrel-a-day plant be authorized. Permission to proceed was given by Order-in-Council in 1972. Just before the plant was completed, the rated capacity was increased to 129,000 barrels per day.

In September, 1973, the government of Alberta and the participants in the Syncrude Project reached agreement on royalties. Clearing of the construction site commenced in December of that year with actual construction beginning the following spring.

In December, 1974, increased capital project costs, combined with other commitments, forced Atlantic Richfield Canada Ltd. to

withdraw from the joint venture. New financial support was found in February, 1975, when the governments of Canada, Alberta, and Ontario purchased 15, 10 and five percent of the project respectively, leaving Imperial Oil Limited with 31.25 percent; Canada-Cities Service with 22 percent and Gulf Oil Canada Limited with 16.75 percent.

One of Canada's largest construction projects

Site preparation for the construction of the Syncrude Project was started with the clearing of the future sites of the extraction and upgrading facilities, the tailings pond and mine. The first of 3.8 million cubic metres (five million cubic yards) of muskeg were removed and

stockpiled. The area was then backfilled with sand and gravel to support the work crews, equipment and materials which began moving onto the site in the spring of 1974. Construction started with the foundations of the fluid cokers.

In the plans were a mine

which would eventually

cover about 26 square kilometres (10 square miles); an extraction complex housed in a building averaging nine stories high, 151 metres (494 feet) by 64 metres (210 feet); a utility plant which can provide 260 megawatts of electrical

(Continued on Page C-9)

## Early explorations . . .

(Continued from Page C-7) sands since the 1920s. One of its scientists, Dr. Karl Clark, pioneered experiments with a hot water flotation process which involved mixing tar sand with hot water and aerating the resultant slurry. This would then separate into a floating froth of bitumen and a clean layer of sand which would settle to the bottom of the tank.

While many other techniques were tried to extract tar sand oil (including radiation, combustion, solvent ex-

traction, and centrifuging) the hot water flotation method pioneered by Ellis, Fitzsimmons and Clark proved, over the years, to be the most viable.

In 1936, another developer, Max Ball, founded Abasand Oils Ltd. His plant west of Fort McMurray was a limited success in that it produced diesel oil from the tar sands. There was a brief flurry of interest in his project, especially during World War II but, when the plant burned down after being purchased by the federal

government, the project died with the buildings.

The 1950s saw another upsurge of interest in the tar sands when the publication of an Alberta government report indicated that production of oil from the sand could be a profitable venture. One result was the establishment of a 1,000-barrel-a-day pilot plant at Mildred Lake by Cities Service Athabasca, Inc., the forerunner of Syncrude Canada.

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# “Thanks.”

Thanks to the 3000 men and women who operate the Syncrude project, Canada is closer to reducing its dependency on foreign sources of oil.

It's also thanks to the thousands of Canadians who researched and developed the new techniques that have been required to successfully extract oil from the tar sands; thanks to those who designed the new extraction equipment and facilities; and thanks to the people who worked

on the construction of the Syncrude complex near Fort McMurray.

Thanks to the efforts of all Syncrude people, past and present, other companies will be following the Syncrude example and helping build energy self-sufficiency into Canada's future.

To the thousands of dedicated Canadian men and women who have helped, and who are helping, make it possible, Syncrude says “Thanks”.

**Syncrude**  
we want you in on what we're doing



# Syncrude — important in Canada's economic history

(Continued from Page C-8)

power, 3,750,000 pounds per hour of steam, and water treatment facilities with a capacity of 61.3 kilolitres (13,500 gallons) a minute; as well as upgrading facilities, capable of producing 129,000 barrels of synthetic crude oil per day.

Product and intermediate tankage with a total volume of 4.6 million barrels had to be constructed, as did all the warehousing, storage, maintenance shops and administration buildings required to support the production process.

A work force of over 7,500 swarmed over the site during the peak construction periods in 1976 and 1977, 6,600 of whom lived in the construction camp on-site. This small town was equipped with a variety of recreational facilities and three kitchens which served up to 27,000 meals a day.

Completing the complex required an estimated five million engineering and 39 million construction man-hours, with another four million construction hours for the utility plant. Among the materials required were 248,000 cubic metres (325,000 cubic yards) of concrete; 853 kilometres (2.8 million linear feet) of piping and 2,920 kilometres (9.6 million linear feet) of wire and cable.

Two new bridges had to be built, one over the mighty Athabasca River and one over Poplar Creek, a small watercourse between Fort McMurray and the construction site. Each had to have a load capacity of 450 tonnes (500 tons) to handle the immense weight of the equipment being trucked to the project. It is estimated that nearly 450,000 tonnes (500,000 tons) of materials, equipment, vessels and plant components travelled the highway to the construction site.

Actual cost of the project was approximately \$2.16 billion, less than six percent above the 1974 estimate of \$2.048 billion, making it the second largest single construction projects in Canadian history.

**Mining the tar sands**  
Syncrude's first mining dragline, which made its initial cut on June 24, 1977, was joined by a second machine in August of that year. These mammoth machines, each weighing 6,120 tonnes (6,750 tons) with a boom 110 metres (360 feet) long and an operating radius of 104 metres (340 feet), are equipped with buckets capable of holding 61 cubic metres (80 cubic yards) of material. Four of the draglines together have the capacity to mine 83.7 million tonnes (93 million tons) of tar sand and waste material per year, more than three times the amount of coal mined in Canada in 1977.

The draglines are used to both remove overburden which is returned to the pit and to mine the tar sand which is deposited in a windrow behind each machine. Bucketwheel reclaimers, machines equipped with a series of toothed buckets on a revolving wheel, then move the material from the windrow onto the conveyor system. Each dragline will have its own reclaimer, which has a height of 20 metres (65 feet) and is over 120 metres (400 feet) long.

A series of electrically-powered conveyor belts moves the tar sand from the mine to the extraction plant. Each of the conveyor systems is designed to transport tar sand at the rate of 6,300 tonnes (7,000 tons) per hour. It is in the extraction plant that conversion to synthetic crude oil begins.

#### Oil from the sand

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It is in the extraction plant that conversion to synthetic crude oil begins.

feet) in diameter, where the aerated bitumen separates into droplets and floats to the surface as a froth. The froth, at this point, still contains substantial amounts of water and fine solids.

The froth recovered from the extraction plant is diluted with naphtha and centrifuged twice to remove the remaining water and solids.

The naphtha is then separated out by distillation, leaving the very thick, black, tar-like bitumen.

To convert the bitumen into a product for use in conventional refineries takes two upgrading steps.

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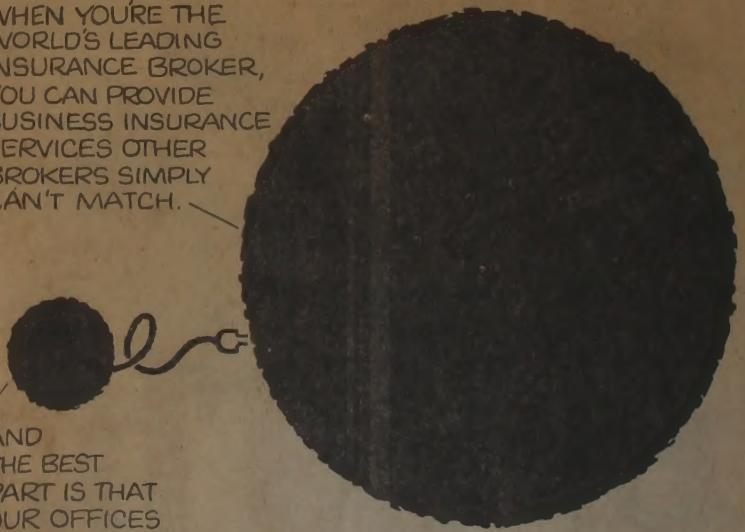
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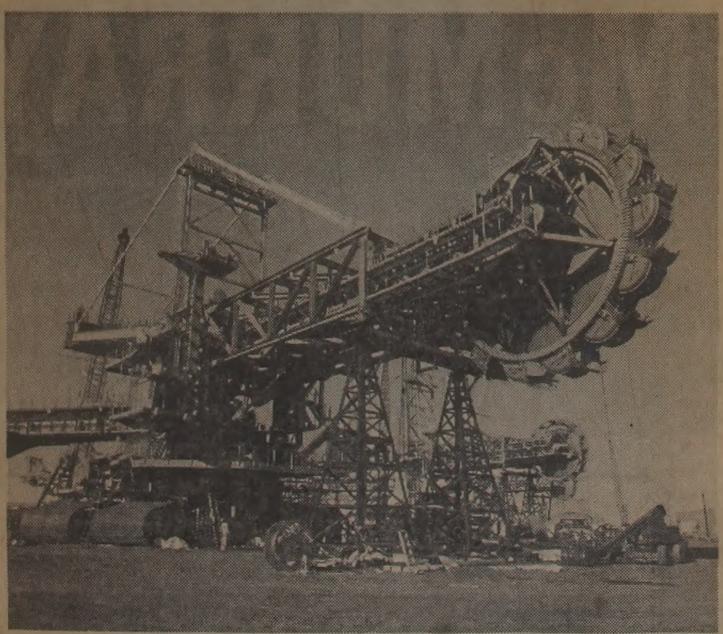
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IN ALBERTA  
ARE PLUGGED INTO ALL THIS.

No matter what size your business is, Marsh & McLennan can handle all your insurance needs. Whether it's fast and efficient claims service or a comprehensive loss control program, all the resources of the world's leading insurance broker, which were made available to the Syncrude Project are at your disposal. Just call us. We'll be happy to discuss what this can mean to you and your business.

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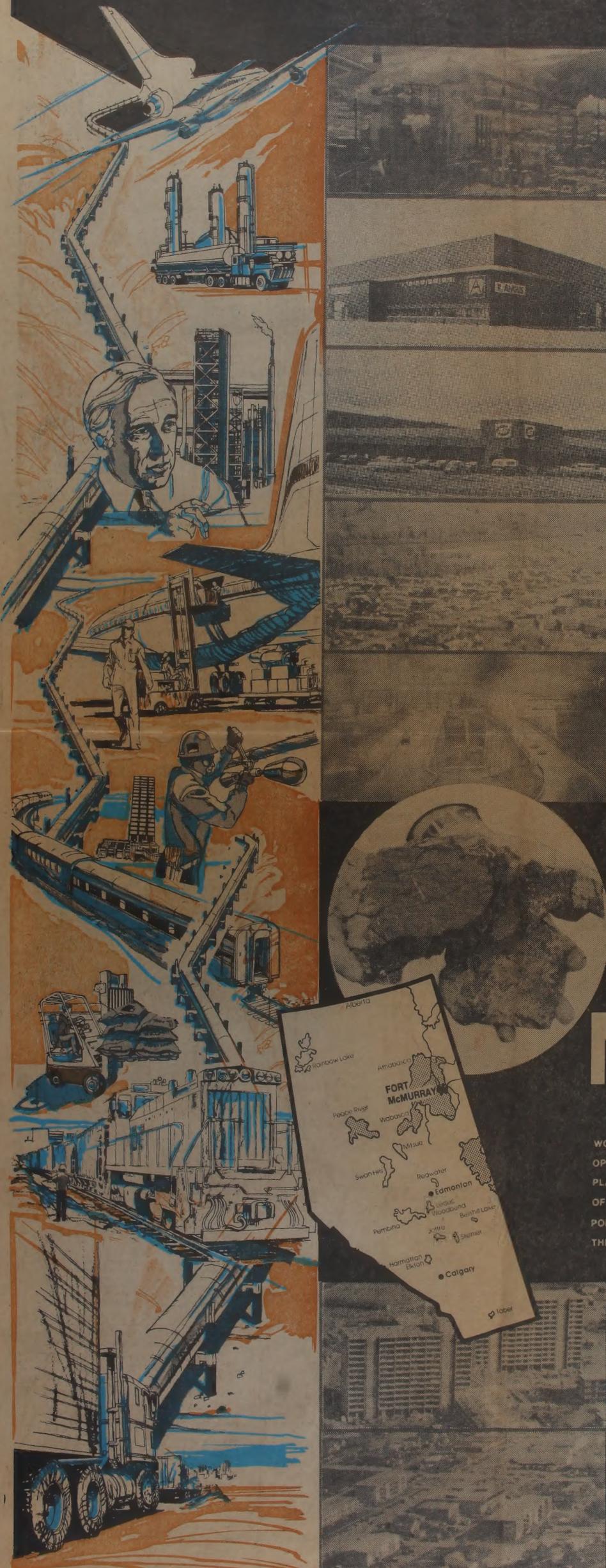


Substantial fabricators of the four bucketwheel reclaimers and four radial stackers and suppliers of many tons of structural steel.

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Located north of Edmonton on a paved, all weather highway, with daily scheduled PWA air service and rail service through Northern Alberta Railways.

Fort McMurray has been developed as a partner in the Oil Sands development industry, and currently provides all residential services for the employees of both Great Canadian Oil Sands and Syncrude Canada Ltd.

The town serves as a vital transportation link northward through Northern Transportation Ltd. (river cargo) and Pacific Western Airlines (passengers and cargo).

Alberta Housing Corporation is the prime developer of industrial lands in the McMurray area, and has available sites of from one to twenty acres, fully serviced, on a long-term lease arrangement. Mackenzie Industrial Park is a fully serviced, landscaped park with wide and accessible boulevards. It is close to Highway 63, the Fort McMurray airport, residence accommodation and the town's business core.

Tenants at the Mackenzie Park include at this time Harbor Industries, Greenforest Builders, Alcor Holdings, R. Angus, Byers Transport, AGT and Northwestern Utilities.

The Keyano College heavy industrial campus adjoins the site.

Residential development opportunities are also available through Alberta Housing Corporation for projects of from one to 200 units.

In development process at this time are a \$10 million government centre, a hotel, several shopping centres including the 280,000 sq. ft. addition to the Peter Pond Shopping Centre (valued in the mid-\$4 million range), a new downtown campus for Keyano College, a \$40 million hospital and a number of large scale residential projects for both industry and the service sector.

Building permit value for the town for 1977 was \$72,017,426, and to date for 1978 is \$37,647,929.

## Alberta's New Oil Capital

# FORT McMURRAY

FORT McMURRAY WILL WELCOME YOUR DEVELOPMENT ENQUIRIES AND WOULD ENCOURAGE YOU TO INVESTIGATE THE POSSIBILITIES OF OIL SANDS PLANT OPERATIONAL SUPPORT SERVICES, SUB-CONTRACTING TO UPCOMING ADDITIONAL PLANT DEVELOPMENTS, AND SERVICE SECTOR REQUIREMENTS FOR A COMMUNITY OF 26,500. THE NORTHEAST ALBERTA REGIONAL PLAN PROJECTS A REGIONAL POPULATION SERVED BY THE FORT McMURRAY REGIONAL CENTRE OF 100,000 BY THE YEAR 2000.

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ALBERTA HOUSING CORPORATION  
PROPERTY MANAGEMENT  
10003 BIGGS AVENUE  
FT. MCMURRAY, ALBERTA  
743-7100

FOR DEVELOPMENT DATA, PLANS, MAPS AND CONTACT INFORMATION:

NEW TOWN OF FORT McMURRAY  
DEVELOPMENT OFFICE  
42 RIEDEL STREET  
FORT McMURRAY, ALBERTA  
743-1000

FOR COMMERCIAL INFORMATION, LITERATURE AND BUSINESS SECTOR ADVICE:

FORT McMURRAY CHAMBER OF COMMERCE  
16-1 TOLEN DRIVE  
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743-3100